



What Is CARS?

CARS (i.e., the Computerized Assessment and Referral System) is a computerized clinical report generator tool that incorporates a structured diagnostic mental health assessment. Comprehensive clinical assessment tools can provide volumes of high quality diagnostic information that facilitate effective treatment planning, but commonly are not user-friendly. CARS packages a powerful mental health assessment tool with a user-friendly interface, increased flexibility, and immediate personalized output, to create a tool that laypeople can use easily to administer comprehensive mental health assessments. CARS output includes personalized information about the mental health disorders for which a client qualifies or is at risk, a summary of other risk factors and important issues, and a list of resources targeted by a client's issues and location.

We created a pilot version of CARS to facilitate the NIAAA-funded study, Toward Evidence Based Treatments to Reduce DUI Relapse (1 R01 AA014710-01A1). In partnership with the Foundation for Advancing Alcohol Responsibility (FAAR), a nonprofit organization with a focus on preventing DUI, we have refined and expanded CARS, and tested its usability and implementation within multiple Massachusetts DUI treatment settings. As part of that project we: (1) modified CARS based on user feedback, adding self-administered and enhanced stand-alone screener modules; (2) implemented and randomized study of CARS at two Massachusetts DUI offender treatment sites; and (3) are currently evaluating the usability of CARS among programs and clients, as well as the efficacy of CARS as a brief intervention by tracking client outcomes across time.

Why Do People and Programs Need CARS?

Mental health problems that extend beyond substance use disorders are common among people with addiction, and can affect treatment outcomes (see Nelson et al., 2015). Yet, in a variety of clinical settings (e.g., addiction treatment facilities or DUI offender programs; see Shaffer et al., 2007), clients often do not undergo comprehensive screening for psychiatric disorders.

Even when treatment programs attempt to estimate the extent of psychiatric disorders, in the absence of systematic screening tools, those efforts often are inaccurate. Research has shown that health care providers make errors when identifying mental health problems, especially when those problems are not in their area of expertise. Staff at community treatment programs for DUI populations often has little expertise in mental health issues. Consequently, standardized and automated assessment and diagnosis tools are essential to the widespread adoption of mental health screening. Because CARS uses the internationally-recognized CIDI (i.e., Comprehensive International Diagnostic Interview), the included assessments are well-validated and reliable.

One problem with standardized assessment tools that contributes to resistance is that many such tools are used only for research purposes and provide no immediate output for counselors or clients during a clinical session. If a tool can supply immediate assessment or diagnostic feedback, it can serve to increase compliance and improve treatment because counselors will be able to reap the benefits of using the instrument. CARS provides immediate personalized output that counselors can use to inform treatment for individual clients. The reports CARS generates assist staff by providing personalized information about disorders and possible referral sources for their clients.



How Is CARS Being Developed and Tested?

CARS adapts a pre-existing standardized mental health assessment, the Composite International Diagnostic Instrument (CIDI). The computerized version of the CIDI includes 41 modules: 21 that inform DSM-IV Axis I diagnoses and 20 that collect information about other demographic and psychosocial variables. Through the 21 diagnostic modules, the CIDI measures the presence, age of onset, and remission of drug and alcohol dependence or abuse and other psychiatric disorders (e.g., depression, PTSD). We have collaborated with one of the founders of the CIDI, Dr. Ron Kessler and his team at the Harvard School of Public Health, to modify the CIDI for CARS. CARS also takes advantage of open source software (i.e., Java, Drools, and MySQL), reducing costs to potential users, and includes a report generator to provide both diagnostic information and summary risks, as well as a zip code-based resource database for Massachusetts.

To test the usability of CARS, we recruited a sample of 5 agencies working with DUI offenders. We asked the users to utilize CARS, as prescribed in their utilization plan, for three months. Throughout that three-month period, users completed online surveys about their experiences with CARS that assessed the tool's usability, time requirement, typical use and referral system. Based on the results of this study and input from key stakeholders, we modified CARS. In particular, we created an empirically-based screener module that can be used on its own in settings where less than an hour is available for assessment, as well as a self-administered version of that screener.

We then recruited two programs to participate in a full implementation trial of CARS as part of their procedures. For six months, within each program, we randomized implementation, so that equal numbers of clients received treatment as usual and each of three CARS conditions (i.e., full assessment, screener only, and self-administered screener). We are now re-assessing all clients six months after their initial participation, collecting information about their treatment progress, drinking behavior, driving behavior, and legal involvement since they first entered the study.

What Are the Long-Term Prospects for Using CARS?

There are many options for the future growth of this initiative. We will be selecting a national sample of pilot sites for CARS in the coming year. We envision building a national Center dedicated to research focused on driving and substance misuse. We hope that this center will emerge from a network of DUI treatment facilities and professionals who utilize CARS and provide input on its expansion, thereby serving as a foundation for DUI related research.

Research continues to find strong links between public health concerns such as substance use, DUI, criminal behavior, and homelessness, and underlying mental health issues. As this research increases, so will the desire of programs that address these behavioral problems to assess and address the underlying mental health issues that influence them. CARS can be adapted for use in many kinds of community programs, as well as educational and primary care settings.

References

- Nelson, S. E., Belkin, K., LaPlante, D. A., Bosworth, L., & Shaffer, H. J. (2015). A prospective study of psychiatric comorbidity and recidivism among repeat DUI offenders. *Archives of Scientific Psychology*, 3(1), 8-17.
- Shaffer, H. J., Nelson, S. E., LaPlante, D. A., LaBrie, R. A., Albanese, M. J., & Caro, G. (2007). The epidemiology of psychiatric disorders among repeat DUI offenders accepting a treatment sentencing option *Journal of Consulting and Clinical Psychology*, 75(5), 795-804.

